

Standards/Measurement Criteria

(Draft)**

Audio/Visual Technology

(formerly named Radio/Television Technology)

Interactive Digital Media - Option B

CIP No. 10.0200

These state standards are designed to be delivered in a sequence of courses. *Standards 1-11 are to be taught as an introduction within the Audio/Visual Technology program.

****Please note: The following CTE program Standards/Measurement Criteria are tentative until assessments are established.**

***1.0 ANALYZE AND COMPARE VARIOUS AUDIO/VISUAL TECHNOLOGY CAREERS AND JOB DESCRIPTIONS**

- 1.1 Examine traditional, non-traditional and entrepreneurial occupational choices
- 1.2 Research audio/visual technology career opportunity information
- 1.3 Examine and apply personal aptitudes and interests to career exploration
- 1.4 Describe the responsibilities and differences in the positions of producer and director
- 1.5 Describe the duties and interrelationships of editors for audio, video, film, special effects and animation
- 1.6 Discuss the roles and responsibilities of position such as lighting directors, cinematographers, videographers, sound engineers, stunt coordinators, special effects coordinators, production specialists and other crew members
- 1.7 Construct a plan to transition from school to a career in radio, audio, television or film
- 1.8 Investigate wages related to career choices based on education level, market and station/production house size

***2.0 PRACTICE A JOB SEARCH FOR THE AUDIO/VISUAL TECHNOLOGY PROFESSION**

- 2.1 Research employment opportunities
- 2.2 Review a job application online and in hard copy
- 2.3 Review an employment resume and cover letter
- 2.4 Practice interviewing skills
- 2.5 Demonstrate the use of technology in a job search
- 2.6 Discuss the value of networking throughout a career in audio/visual technology

***3.0 DEVELOP EMPLOYABILITY SKILLS FOR THE AUDIO/VISUAL INDUSTRY**

- 3.1 Identify factors contributing to job success
- 3.2 Discuss how social skills are helpful in obtaining and maintaining a job
- 3.3 Demonstrate work ethics
- 3.4 Practice the use of technology as related to occupations in radio, audio, television and film

***4.0 PRACTICE COMMUNICATION SKILLS FOR THE AUDIO/VISUAL TECHNOLOGY ENVIRONMENT**

- 4.1 Develop skills in verbal and nonverbal communication
- 4.2 Identify audio and visual approaches that connect with an audience
- 4.3 Explain how knowledge is used in dealing with projects covering a broad spectrum of events, regions or cultures when research may not be possible
- 4.4 Define commonly used radio, audio, television and film production terminology
- 4.5 Review guidelines for effective written communication (letters, reports, email)

***5.0 PARTICIPATE IN LEADERSHIP ACTIVITIES SUCH AS THOSE SUPPORTED BY CAREER AND TECHNICAL STUDENT ORGANIZATIONS SUCH AS SkillsUSA**

- 5.1 Evaluate characteristics of an effective team player
- 5.2 Determine the roles and responsibilities that leaders and members bring to an organization
- 5.3 Evaluate characteristics of effective teams
- 5.4 Practice techniques to involve each member of the team
- 5.5 Demonstrate teamwork
- 5.6 Practice effective time and meeting management
- 5.7 Participate in career development events
- 5.8 Develop a personal and professional improvement plan and goals
- 5.9 Demonstrate business etiquette
- 5.10 Practice decision-making process

***6.0 DEMONSTRATE TECHNOLOGICAL LITERACY FOR THE AUDIO/VISUAL FIELD**

- 6.1 Examine the uses of technology in audio/visual technology
- 6.2 Explore new technological trends in audio/visual technology including IPTV, VoD, PSL, Podcasting, V-Cast, EVDO, HD, HDV and XDCAM
- 6.3 Demonstrate basic usage of computers including input, storage, archiving and output
- 6.4 Access information electronically via the Internet, CD-Rom and DVD, etc.
- 6.5 Use presentation and multimedia software to prepare a presentation

***7.0 APPLY PROBLEM SOLVING AND DECISION MAKING SKILLS TO AUDIO/VISUAL SITUATIONS**

- 7.1 Identify problem-solving processes
- 7.2 Describe methods of establishing priorities
- 7.3 Create a work schedule and plan to accomplish it
- 7.4 Explore relationships with vendors, clients and employees

***8.0 PRACTICE SAFE WORKING PROCEDURES FOR THE AUDIO/VISUAL TECHNOLOGY PROFESSION**

- 8.1 Identify potential hazards for a audio/visual work environment
- 8.2 Explain appropriate safety precautions around common job-site hazards
- 8.3 Explore components of a safe workplace and OSHA (Occupational Safety and Health Administration) requirements
- 8.4 Practice basic procedures for safe storage and upkeep of tools, equipment and media

***9.0 EXPLORE THE LEGAL AND ETHICAL ENVIRONMENT OF THE AUDIO/VISUAL TECHNOLOGY PROFESSION**

- 9.1 Explore code of ethics for an audio/visual environment
- 9.2 Examine components of workplace rights and issues of discrimination
- 9.3 Identify importance of and steps for securing permission to use copyrighted materials
- 9.4 Examine first amendment requirements regarding the use of music and copyrighted materials

***10.0 EXPLORE THE IMPACT OF DIGITAL TECHNOLOGY ON THE AUDIO/VISUAL INDUSTRY**

- 10.1 Describe various production platforms such as high definition, DVC Pro and Digital Beta
- 10.2 Describe the significance of digital technology and high definition production and various equipment requirements related to pre-production, production, and post-production
- 10.3 Review Internet streaming, V-Cast/Podcasting, satellite TV/radio and radio/audio technologies

***11.0 APPLY MATHEMATICAL PROCESSES TO PROBLEMS IN AUDIO/VISUAL TECHNOLOGY**

- 11.1 Perform mathematical calculations in the context of audio/visual problems
- 11.2 Recognize and use metric units of length, weight, volume and/or temperature
- 11.3 Use technology in the solution of math-related problems

12.0 DEVELOP AN INDIVIDUAL CAREER PLAN FOR THE AUDIO/VISUAL INDUSTRY

- 12.1 Investigate career options in radio, audio, television and film industries, including freelance and contract work
- 12.2 Investigate internship and apprenticeship opportunities
- 12.3 Develop career goals based on interests, aptitudes and research
- 12.4 Review/revise plan/goals on annual basis
- 12.5 Describe personal and workplace factors that contribute to job satisfaction and success

13.0 PREPARE FOR EMPLOYMENT IN AUDIO/VISUAL TECHNOLOGY

- 13.1 Explain steps in a job search
- 13.2 Develop a resume
- 13.3 Research hiring criteria for jobs in audio/visual industries
- 13.4 Research a company as a potential employer
- 13.5 Complete job application process
- 13.6 Apply researched company information for the purpose of preparing for the interview process
- 13.7 Demonstrate interviewing skills, including pre-interview preparation and post-interview follow-up

14.0 CREATE A PORTFOLIO TO DEMONSTRATE ABILITY

- 14.1 Research what prospective employers would need to determine skill attainment in audio/visual technology
- 14.2 Create demo utilizing the appropriate media including attention to content, structure, format and length
- 14.3 Provide sample of writing ability in portfolio
- 14.4 Provide instructor feedback/comments for selected writing and production elements of the portfolio

15.0 PARTICIPATE IN AUDIO/VISUAL TECHNOLOGY WORK-BASED LEARNING EXPERIENCES

- 15.1 Use technology appropriate for the job
- 15.2 Demonstrate positive work behaviors
- 15.3 Demonstrate positive interpersonal behaviors
- 15.4 Demonstrate safe and healthy work behaviors
- 15.5 Demonstrate ethical work behaviors required in an audio/visual environment
- 15.6 Demonstrate ability to take direction and contribute to a team environment
- 15.7 Participate in a variety of work-based experiences such as mentoring, job shadowing, internship, apprenticeship or paid work experience

16.0 DEMONSTRATE ORAL COMMUNICATION SKILLS REQUIRED IN A AUDIO/VISUAL WORKPLACE

- 16.1 Conduct formal/informal research to collect appropriate information for a presentation on an audio/visual technology topic
- 16.2 Use questioning techniques to obtain needed information from audience/client
- 16.3 Interpret oral and nonverbal communications of audience
- 16.4 Demonstrate active listening during communications
- 16.5 Demonstrate appropriate technologies for a formal presentation
- 16.6 Prepare and deliver presentations
- 16.7 Demonstrate effective telephone communication

17.0 DEMONSTRATE WRITTEN COMMUNICATION SKILLS REQUIRED IN A AUDIO/VISUAL WORKPLACE

- 17.1 Develop a concept for a presentation
- 17.2 Organize information and develop an outline for a presentation
- 17.3 Write business communications utilizing the appropriate format for the situation
- 17.4 Prepare a draft document using appropriate technology and established rules for grammar, spelling and sentence structure
- 17.5 Utilize multiple technologies and most appropriate software for written and presentation communications
- 17.6 Demonstrate effective and proper e-mail etiquette

18.0 EXPLORE THE AUDIO/VISUAL INDUSTRIES AND THEIR ROLE IN THE ECONOMY

- 18.1 Research the role and impact of electronic media on society and the economy
- 18.2 Compare/contrast electronic media such as radio, network/cable/satellite television, radio/audio, Internet, blogs and film)
- 18.3 Explain the development of a network, satellite, VOD, EVDO, DSL, HD and cable system and their impact
- 18.4 Analyze how radio and television stations interact with their local communities
- 18.5 List the factors, including personal traits, which contribute to the success of small radio/television stations and small production houses for animation, film and audio
- 18.6 List the factors, including personal traits, which contribute to the success of freelance and contract work in audio/visual industries
- 18.7 Explore how satellite usage affects the audio/visual industry

19.0 DEMONSTRATE BUSINESS AND FINANCIAL MANAGEMENT PRACTICES OF THE AUDIO/VISUAL INDUSTRIES

- 19.1 Use terms and vocabulary of the industry appropriately and in context of business
- 19.2 Analyze how radio and television stations as well as production houses earn their income
- 19.3 Describe the steps of the production process
- 19.4 Develop a budget for a radio, audio, television and film production
- 19.5 Prepare a rate sheet for freelance or contract services
- 19.6 Describe the impact of quality business communications on the success of an organization
- 19.7 Identify management issues in customer and employee relations
- 19.8 Discuss the impact of sales and marketing within these industries' departments
- 19.9 Review the financial challenges of developing advertising

20.0 EVALUATE LEADERSHIP STYLES APPROPRIATE FOR THE WORKPLACE

- 20.1 Determine personal characteristics of effective leaders in various roles
- 20.2 Compare/contrast leadership and management styles
- 20.3 Identify the contribution and the team effort required to complete a production (i.e. writer, director, producer, editor, gaffers, grip, cinematographer, etc.)
- 20.4 Practice conflict management
- 20.5 Describe how cultural/ethnic differences affect production of specific projects or programs
- 20.6 Explore the impact of changing media on traditional business models

21.0 PARTICIPATE IN LEADERSHIP ACTIVITIES SUCH AS THOSE SUPPORTED BY CAREER AND TECHNICAL STUDENT ORGANIZATIONS SUCH AS SkillsUSA

- 21.1 Determine the roles and responsibilities that leaders and members bring to an organization
- 21.2 Evaluate characteristics of effective teams
- 21.3 Evaluate characteristics of an effective team player
- 21.4 Practice techniques to involve each member of the team
- 21.5 Demonstrate teamwork
- 21.6 Practice effective meeting management
- 21.7 Demonstrate business etiquette
- 21.8 Practice decision-making process

22.0 EXHIBIT ETHICAL AND LEGAL RESPONSIBILITY FOR THE AUDIO/VISUAL INDUSTRY

- 22.1 Identify current ethical and legal issues in audio/visual technology professions
- 22.2 Research and identify published codes of ethics for various electronic media mediums
- 22.3 Explain the Bill of Rights as it pertains to audio/visual technology
- 22.4 Compare journalism and broadcasting in this country to that of other countries that do not have rights such as those provided by the First Amendment in the US
- 22.5 Differentiate among news and entertainment (ie. hard and soft)
- 22.6 Evaluate the responsibility for ethical influence of print, audio/visual media and performing arts and their impact on society
- 22.7 Practice responsible journalism in gathering, editing and reporting information accurately
- 22.8 Describe the procedure for obtaining information under the Freedom of Information Act
- 22.9 Research and demonstrate ability to use copyright laws in relation to seeking formal permission to use materials
- 22.10 Identify and use copyright laws related to the use of text; images; and recorded, Internet and oral materials
- 22.11 Describe issues related to libel and slander in the media
- 22.12 Discuss why it is important to pursue truth in ambiguous situations
- 22.13 Research and follow Federal Communications Commission (FCC) regulations
- 22.14 Discuss the Emergency Broadcast System

23.0 PRACTICE SAFETY APPLICABLE TO THE AUDIO/VISUAL INDUSTRY

- 23.1 Identify safety hazards associated with a production and broadcast
- 23.2 Identify safety hazards associated within an audio/visual facility
- 23.3 Explain the safe use and maintenance of broadcast equipment and tools
- 23.4 Demonstrate individual safe work habits and procedures common to the industry
- 23.5 Classify critical safety issues and practices identified by OSHA in relation to audio/visual technology

24.B OPERATE STUDIO EQUIPMENT

- 24.1b Identify audio/video resources necessary for production
- 24.2b Check required equipment for readiness
- 24.3b Identify the parts and controls of a studio camera
- 24.4b Operate tripod, dolly and pan tilthead
- 24.5b Control camera lenses
- 24.6b White-balance camera for different desired effects
- 24.7b Perform camera movements (tilt, pan, focus, zoom, dolly, truck, etc.)
- 24.8b Identify and select microphones for production
- 24.9b Place microphones for maximum effect
- 24.10b Setup and operate camera prompts
- 24.11b Setup and operate monitors
- 24.12b Report equipment problems
- 24.13b Demonstrate how to troubleshoot audio/video system operations
- 24.14b Demonstrate how to clean, tune and align video equipment
- 24.15b Interpret video signals and production formats
- 24.16b Compose and shoot static shots (wide, medium, close, tight and extreme close-up)
- 24.17b Compose and shoot motion shots (tilt, pan, zoom, dolly, truck, pedestal, track and arc)

25.B OPERATE A STUDIO CONTROL ROOM

- 25.1b Identify roles and responsibilities of control room positions such as audio tech, director, producer and operators
- 25.2b Identify control room components
- 25.3b Operate recording devices (i.e. VTR, media stream, etc.)
- 25.4b Operate audio monitors, audio source devices and audio mixing console for control room and studio
- 25.5b Operate character and special effects generators
- 25.6b Calibrate video monitors
- 25.7b Setup and use chroma key
- 25.8b Operate a master switcher
- 25.9b Set levels for audio equalization
- 25.10b Exhibit knowledge of analog and digital for audio formats
- 25.11b Illustrate the use of SMPTE time code techniques for synchronization of an audio with video and multiple sound tracks

26.B CONTROL SET LIGHTING

- 26.1b Explain basic lighting for studio and field productions
- 26.2b Explain various lighting instruments and their applications such as spot, flood, softlight, background, ellipsoidal and scoops
- 26.3b Operate DMX 512 lighting board controller
- 26.4b Use specialty lighting for chroma key composition
- 26.5b Demonstrate knowledge of camera and equipment control for creating desired lighting effects

27.B SET UP AND OPERATE FIELD/LOCATION EQUIPMENT

- 27.1b Explore the difference between studio and field production including personnel and equipment requirements
- 27.2b Use location microphones
- 27.3b Use field monopod/tripod
- 27.4b Operate studio and field cameras and recorders
- 27.5b Compose and shoot static shots (wide, medium, close, tight and extreme close-up)
- 27.6b Demonstrate ability to track action with the camera

28.B PRODUCE AND EDIT DIGITAL IMAGES

- 28.1b Describe the difference between analog and digital production
- 28.2b Define terms associated with computer-based production, including motion video: AVI, QuickTime and MPEG; and stills JPEG and TIFF, MP4, AVI, EPS
- 28.3b Utilize industry-standard imaging software solutions
- 28.4b Operate image capture devices
- 28.5b Demonstrate ability to convert and manipulate images/graphics to applicable file formats

29.B EXHIBIT THE KNOWLEDGE AND SKILLS REQUIRED TO DESIGN AND EXECUTE A PRODUCTION FOR PRESENTATION

- 29.1b Analyze the script and storyboard pre-visualization development process for successful production
- 29.2b Develop script and storyboard pre-visualization for production
- 29.3b Create a short script and storyboard and identify the resources needed to begin the production
- 29.4b Create a short script and identify the resources needed to begin the production
- 29.5b Identify the activities and personnel associated with pre-production, production, and post-production
- 29.6b Identify the linkage from each stage to the next in processes and activities
- 29.7b Identify the team roles required for completion of a production
- 29.8b Identify equipment, crew and cast requirements for a short scripted video
- 29.9b Execute a production of the script
- 29.10b Critique a production to determine how the various elements resulted in a successful or unsuccessful presentation

30.B PRODUCE AND EDIT DIGITAL VIDEO/ANIMATION

- 30.1b Utilize industry standard motion graphics software to develop multiple animation projects
- 30.2b Determine appropriate platform and software for post production
- 30.3b Create 2D and 3D motion graphics
- 30.4b Determine appropriate video streaming software for use application
- 30.5b Explore possible debugging options

31.B DEVELOP INTERACTIVE MEDIA

- 31.1b Identify the major characteristics of interactive media productions
- 31.2b Develop a conceptual model and navigational flowchart for an interactive media project based on the users
- 31.3b Utilize industry standard interactive media software to develop multiple projects (i.e. short film, music video, documentary and commercials)
- 31.4b Select and integrate digital media elements (i.e. sound, video, graphics, text, animation) for a production
- 31.5b Optimize product for publication and intended distribution

32.B MANAGE DIGITAL MEDIA

- 32.1b Explore methods and technologies used in digital media storage
- 32.2b Manage data storage media with attention to naming convention
- 32.3b Label and archive computer digital files properly
- 32.4b Send and receive data over a computer network
- 32.5b Send and receive data over the Internet
- 32.6b Create a final CD/DVD presentation

33.B APPLY KNOWLEDGE OF AUDIO EQUIPMENT FOR PRODUCTIONS

- 33.1b Identify basic recording session equipment
- 33.2b Select equipment and format best suited for audio productions
- 33.3b Demonstrate ability to mix and equalize audio tracks in digital formats
- 33.4b Demonstrate how to record and mix audio
- 33.5b Explore procedures involved in synchronization
- 33.6b Demonstrate how audio is synchronized with other audio and video

34.B DEMONSTRATE ABILITY TO PODCAST

- 34.1 Define the industry standard terms
- 34.2 Explain the differences and similarities of common industry formats
- 34.3 Create audio and video components specifically for “podcasting”
- 34.4 Modify for podcasting audio and video products created for other mediums.
- 34.5 Use appropriate compression codecs
- 34.6 Manage, distribute, and/or post to an appropriate site